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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,131

12/23/2005

Takashi Kakiuchi

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04/11/2008

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EXAMINER

ITALIANO, ROCCO

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

04/11/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,131	<b>Applicant(s)</b> KAKIUCHI ET AL.	
	<b>Examiner</b> ROCCO ITALIANO	<b>Art Unit</b> 4156	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/23/2005, 01/22/2008</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “184” has been used to designate both a main bearing and an auxiliary bearing. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “308” has been used to designate both an auxiliary bearing and an auxiliary shaft. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as “Annotated Sheets” and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

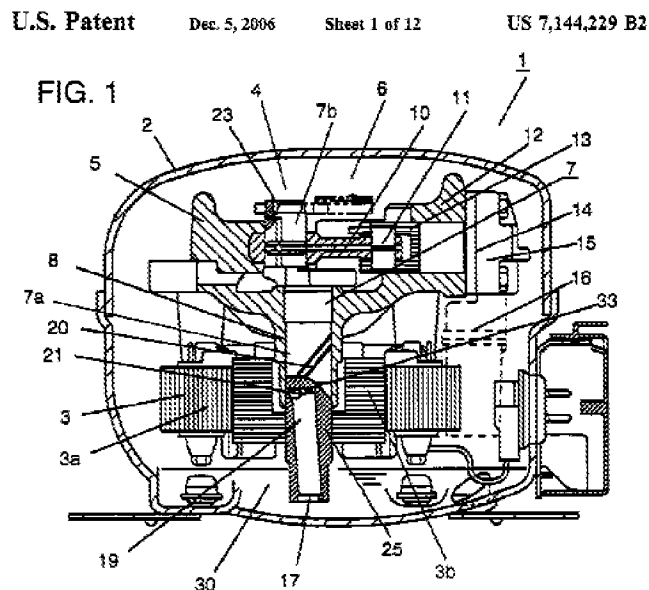
Claim 1-3 and 5 are rejected under 35 U.S.C. 102 (b) as being clearly anticipated by Ishida et al. WO 03/008805. United States Patent Ishida et al. US 7,144,229 B2 will be used as an equivalent English translation of WO 03/008805 throughout the remainder of the action in order to refer to Figures and relevant subject matter within the disclosure.

With respect to claim 1, Ishida et al. discloses a hermetically sealed compressor particularly defining similar features as claimed by the applicant (see column 5 line 44 – column 6 line 13 and Fig. 1). Ishida et al. discloses: a hermetic compressor (1) comprising a sealed vessel or body (1) filled with freezer oil (30); an electromotive element (3) including a rotor (3b) and a stator (3a) housed or accommodated within the sealed vessel or body (1); a compressing element or compressing unit (6) which can be visually observed in Fig.1 as being accommodated within an upper region of the sealed vessel and being adapted for to be driven by the electromotive element; the compression element (6) being provided with a crankshaft or shaft (7) which can also be visually observed in Fig. 1 as extending vertically and having the rotor (3b) mounted thereon; Fig. 1 also illustrates a bearing (8) for supporting the shaft (7); a slanting channel or first oil pump (19) provided in the lower portion of the shaft and opening into

Art Unit: 4156

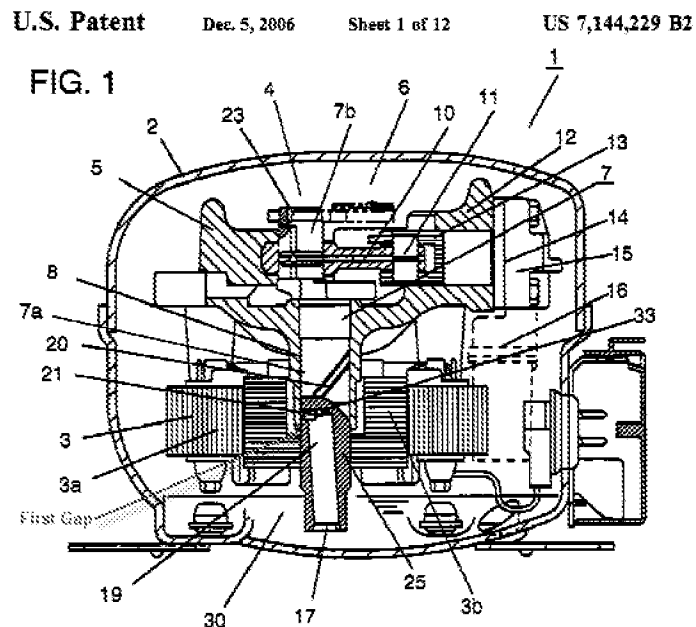
the freezer oil (30); a second oil pump comprising a spiral groove (20), provided on the outer periphery of the shaft (7), whereby the second oil pump is provided at the top end or above the first oil pump (19), and an inner peripheral wall surface of the rotor; as seen in Fig.1, the spiral groove (20) is provided along the outer periphery of the main crankshaft (7), whereby a third oil pump, provided above the second oil pump, is formed by the spiral groove (20) provided on the outer periphery of the shaft (7) and an inner peripheral surface of the bearing (8).

In regards to claim 2, it can be visually observed from Fig. 1 according to Ishida that the spiral groove (20) of the second and third oil pump is formed continuously.

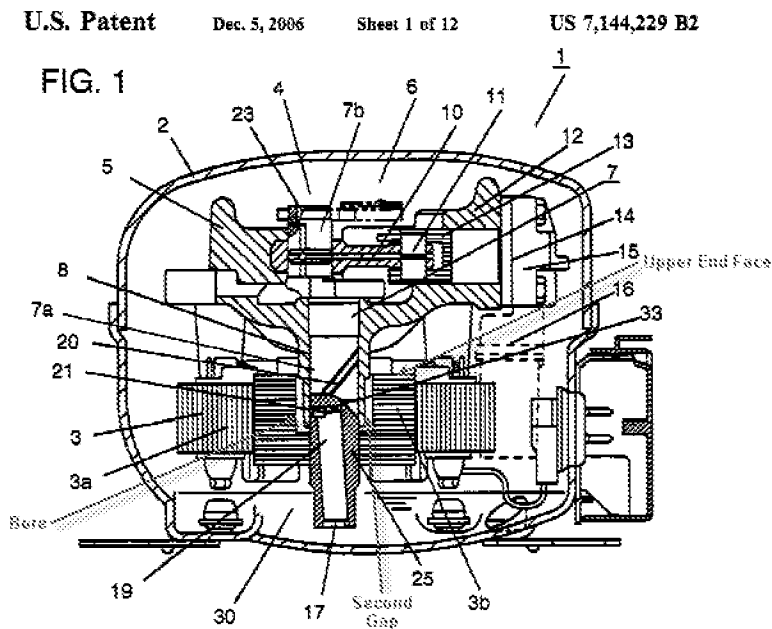


In regards to claim 3, Fig.1 according to Ishida illustrates the spiral groove (20) of the second and third oil pump as being provided on the outer periphery of shaft (7). It may be observed from Fig. 1 that the shaft on which the spiral groove (20) is provided is in communication with a first gap formed between the rotor (3b) and bearing (8)

therefore allowing for open communication between first gap and spiral groove (20) (see Fig. 1 labeled by the examiner for clarity).



With respect to claim 5, Ishida discloses in Fig. 1 a rotor with an upper end face formed with a bore for receiving the bearing (8) whereby a second gap is formed between an inner peripheral surface of the bore and an outer peripheral surface of the bearing (see Fig. 1 label by the examiner for clarity).



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. WO 03/008805. United States Patent Ishida et al. US 7,144,229 B2 will be used as an equivalent English translation of WO 03/008805.

In regards to claims 4, 6 and 7, the claimed specific numerical limitations of the first and second gap as well as the dept of the bore, are considered to be obvious design choices, that one of ordinary skill in the art would have known how to optimize in view of the specific technical requirements of the hermetically sealed compressor design. Further, to the extent that the claimed invention produces the claimed desired

results, the applied prior art structure being the same, does the same. In addition, it has been held that “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955), MPEP 2144.05 II.

In regards to claim 5, it is interpreted by the examiner that the placement of the elastically deformable washer interposed in the first gap is to eliminate the gap provided between the bearing and the rotor, according to the applicant, for the purpose of reducing the amount of oil that flows through the gap. It would be obvious to one of ordinary skill in the art to place an elastically deformable washer or gasket in such a manner as claimed by the applicant to achieve the anticipated success of reducing oil flow through the gap.

Claim 10, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. WO 03/008805 (United States Patent Ishida et al. US 7,144,229 B2 will be used as an equivalent English translation of WO 03/008805) and further in view of Tamura et al. US 6.547, 538 B1.

With respect to claim 10, Ishida et al. discloses a hermetically sealed compressor particularly defining similar features as claimed by the applicant (see column 5 line 44 – column 6 line 13 and Fig. 1). Ishida et al. discloses: hermetic compressor (1) comprising a sealed vessel or body (1) filled with freezer oil (3); an electromotive element (3) including a rotor (3b) and a stator (3a) housed or accommodated within the sealed vessel or body (1); a compressing element or compressing unit (6) which can be

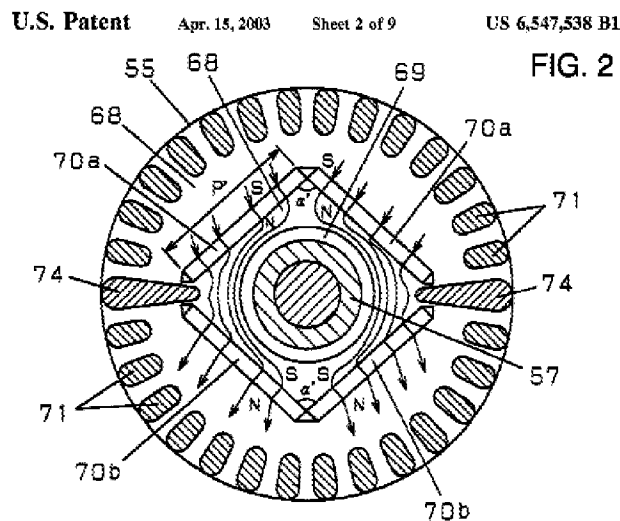


Art Unit: 4156

visually observed in Fig.1 as being accommodated within an upper region of the sealed vessel and being adapted for to be driven by the electromotive element; the compression element (6) being provided with a crankshaft or shaft (7) and an eccentric shaft portion (7b) which both can be visually observed in Fig. 1 as extending vertically and having the rotor (3b) mounted thereon; Fig. 1 also illustrates a bearing (8) for supporting the shaft (7); a slanting channel or first oil pump (19) provided in the lower portion of the shaft and opening into the freezer oil (30); a second oil pump comprising a spiral groove (20), provided on the outer periphery of the shaft (7), whereby the second oil pump is provided at the top end or above the first oil pump (19), and an inner peripheral wall surface of the rotor; as seen in Fig.1, the spiral groove (20) is provided along the outer periphery of the main crankshaft (7), whereby a third oil pump, provided above the second oil pump, is formed by the spiral groove (20) provided on the outer periphery of the shaft (7) and an inner peripheral surface of the bearing (8).

The disclosure according to Ishida does not provide any specific details in regards to the electromotive element. However, Tamura et al. teaches particular details of a motor (53) comprising a rotor (55) wherein permanent magnets (70a) and (70b) are built in the core (68). Tamura et al. teaches further that permanent magnets comprise of both north (N) and south (S) poles ultimately allowing for a bipolar permanent magnet electric motor (see column 4 line 66 - column 5 line 10 and Fig. 2). Therefore it would be obvious at the time of the invention to utilize a bipolar permanent magnet electric motor including a rotor with built in permanent magnets due to the fact that is a well-known type of motor that would be known to one of ordinary skill in the art. As to the

rotor having an iron core, it is notoriously known in the art for the core to be constructed from a material as such. Furthermore, Tamura teaches of motor in which the rotor comprises of an iron core (see column 1, lines 34 - 37).



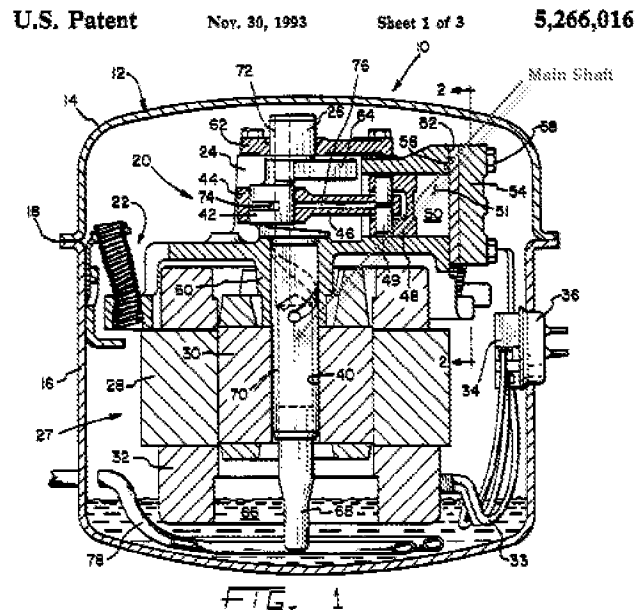
With respect to claim 13, Tamura et al. teaches of a self starting synchronous motor (53) in which conductor bars (71) are provided on the periphery of the rotor (55) of a starter cage conductor on the outer periphery of the rotor core and also including a plurality of permanent magnets (70a) and (70b) embedded within the rotor core (see column 4 lines 33 – 38, column 5 lines 23 – 36 and Fig. 2). As to the rotor having an iron core, it is notoriously known in the art for the core to be constructed from a material as such.

With respect to claim 14, Tamura et al. teaches that the permanent magnets (70a) and (70b) are rare earth magnets (see column 4, line 66 - column 5, line 3). Therefore it would be obvious to one of ordinary skill at the time of the invention to utilize magnets as such since they are already known in the art. Furthermore, it would be obvious for one of ordinary skill in the art to select a permanent magnet from a finite

number of resources whether it is a permanent magnet that occurs naturally or one which is manufactured. A person of ordinary skill has good reason to pursue the known options of permanent magnets within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

Claim 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. WO 03/008805 (United States Patent Ishida et al. US 7,144,229 B2 will be used as an equivalent English translation of WO 03/008805) in view of Tamura et al. US 6,547, 538 B1 as applied to claim 10 above, and further in view of Kandpal U.S. 5,266,016.

In regards to claim 11, Kandpal teaches of a hermetically sealed compressor wherein it may be visually observed in Fig. 1 that the element (60), analogous to the main bearing as designated by the applicant, is arranged in a comparable manner in which it (60) does not intersect a plane containing one end of the rotor core (30) adjacent the compressing element (20) and lying generally perpendicular to a longitudinal axis of the main shaft (labeled by examiner) (see Fig. 1).



With respect to claim 12, Fig. 1 according to Kandpal, also provided an illustrated teaching in which auxiliary shaft portion (26) provided coaxially of the main shaft portion (labeled by the examiner) with the eccentric shaft portion (42) intervening between the main shaft portion (labeled by the examiner) and the auxiliary shaft portion (26), and an auxiliary bearing (62) for supporting the auxiliary shaft portion (26) (see Fig. 1).

Based on the teachings according to claims 11 and 12, it would be obvious to one of ordinary skill in the art to make use of the well recognized arrangement of elements.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida et al. WO 03/008805 (United States Patent Ishida et al. US 7,144,229 B2 will be used as an equivalent English translation of WO 03/008805) as applied to claim 1 above, and further in view of Kawahara et al. U.S. 5,340,287.

In regards to claim 9, Kawahara teaches of a scroll-type compressor comprising of an electric motor in which the magnetic centers of the rotor and stator are offset from one another. Kawahara teaches that when the electric motor is arranged such that the magnetic centers of the rotor and stator are offset from each other, a magnetic attracting force acts as an axial pre-load on the inner race of the upper bearing in addition to the weight of the crankshaft and associated parts (see column 7, lines 5-11). It is interpreted that the load is generated by the rotor being displaced into alignment with the center of magnetism of the stator due to the magnetic force there between. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to offset the center of magnetism of a rotor from that of a stator in order to achieve a magnetic attraction there between allowing for the rotor to be displaced by a particular distance to overcome the offset of their magnetic centers. Furthermore, it would be obvious to offset the rotor's center of magnetism a particular distance below the center of magnetism of the stator to achieve and upward displacement of the rotor by a desired distance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROCCO ITALIANO whose telephone number is (571)270-3761. The examiner can normally be reached on Mon - Fri (Alt Fri Off) 9-5 EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Isabella can be reached on (571) 272-4749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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